

CHOLECALCIFEROL BAITS FOR CONTROLLING GROUND SQUIRRELS AND PRAIRIE DOGS

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Abstract:

A literature search on cholecalciferol for controlling ground squirrels and prairie dogs revealed three laboratory studies. Beard et al. (1988) reported cholecalciferol baits effectively controlled rock squirrels. They evaluated 0.075% cholecalciferol grain or pelleted baits in both no-choice or free-choice feeding trials, with 100% (N = 31) rock squirrel mortality. In the no-choice tests, their mg/kg intake of cholecalciferol averaged 53.3 mg/kg, and mean days to death was 8.7 days. In the free-choice tests, their mg/kg intake of cholecalciferol averaged 34.3 mg/kg, and mean days to death was 15.4 days. Bait shyness was reported in one test where the rock squirrels were given a cholecalciferol paraffin block, which 4 of 5 animals refused. This bait form was discontinued.

Matschke and Andrews (1990) conducted a series of cholecalciferol oat bait feeding trials with four species of ground squirrels at the Denver Wildlife Research Center. Among the four species of ground squirrels the 13-lined appeared the most sensitive to the toxicant. As all animals died after feeding on the 0.075%, 0.375%, and 0.50% cholecalciferol concentrations. Mortality for the other three species was as follows:

Concentration	Mortality		
	Richardson's	Columbian	Spotted
0.075%	90%	100%	90%
0.375%	100%	90%	100%
0.50%	89%	100%	---
0.75%	---	80%	---

Among the six survivors, four basically failed to consume the bait, whereas two animals were considered eaters. For bait consumption on Day 1, as the bait concentration increased, bait consumption decreased for all species except the Richardson's ground squirrel. For this species, bait consumption at the 0.50% concentration exceeded that of the 0.375% concentration.

Black-tailed prairie dogs were fed four concentrations (0.075%, 0.20%, 0.375%, and 0.50%) of cholecalciferol baits (Matschke and McCann 1990). Prairie dog mortality did not exceed 40% on any one concentration, and on two concentrations (0.375% and 0.50%) no mortality occurred. As the concentration of the baits increased, prairie dog consumption of the bait decreased. Consequently, the average mg/kg intake for the four cholecalciferol concentrations over the 3-day feeding period was similar, 0.075% - 24 mg/kg, 0.20% - 32 mg/kg, 0.50% - 23 mg/kg, and 0.50% - 28 mg/kg.